

a data processor obtaining dielectric anisotropy of the sample from variance of a detection output of said detector following rotation by the rotation mechanism whereby said orientation measuring instrument measures orientation of a portion of the sample.

2. (Amended) An orientation measuring instrument comprising:

a plurality of dielectric resonators comprising planes being in contact with a sample and arranged close to each other, said dielectric resonators arranged in a first surface of the sample;

a microwave exciter generating electric field vectors having unidirectional components, being electric field vectors having directions different from each other at a frequency in the vicinity of the resonance frequency of said dielectric resonator when the sample is present and in an in-sample plane parallel to said planes in the respective dielectric resonators;

detectors for the respective dielectric resonators detecting transmission energy or reflection energy by these dielectric resonators; and

A' cont. a data processor obtaining dielectric anisotropy of the sample from variance of detection outputs by said detectors at said electric field vectors of different directions from said plurality of dielectric resonators whereby said orientation measuring instrument measures orientation of a portion of the sample.

3. (Amended) An orientation measuring instrument comprising:

a dielectric resonator having a plane being in contact with a sample, said dielectric resonator arranged on a first surface of the sample;

a plurality of sets, being sets of microwave exciters generating electric field vectors having unidirectional components at a frequency in the vicinity of the resonance frequency of said dielectric resonator when the sample is present and in an in-sample plane parallel to said plane in said dielectric resonator and detectors detecting transmission energy or reflection energy by said dielectric resonator, arranged on positions different from each other with respect to said dielectric resonator;

a switching driver selecting one set among said plurality of sets of microwave exciters and detectors and sequentially driving the same; and